REMARKS

In this reply, we have amended claims 1, 27,29, 32 and 40, and added claims 59-67. Thus, the application presently includes claims 1-67, with claims 1, 27, 40, 60, 61, and 64-67 being independent claims.

Presently, originally filed claims 1-58 stand rejected as obvious in view of Gander et al. (Experimental measurement of group velocity dispersion in photonic fiber, Electronics Letters, Vol. 35, No. 1 (1999) pp. 63-64), either alone or further in view of Nelson et al. (U.S. Patent No. 5,999,308). We traverse for the following reasons.

Independent claim 1 covers methods that require "detecting measurement light reflected from within [a] photonic crystal fiber," and "determining information about a defect within the photonic crystal fiber according to the measurement light."

Independent claim 27 covers apparatus that require "an optical assembly positioned ... to collect light reflected from within [an] end of [a] photonic crystal fiber, a detector positioned to detect the light collected from the photonic crystal fiber ... the detector [being] capable of detecting light at [a] first wavelength," and "an electronic controller ... [which] determines information about a defect within the photonic crystal fiber from a function of the intensity of the first measurement signal [corresponding to a first test light component at the first wavelength]."

Independent claim 40 covers methods that require "detecting measurement light reflected from within [an] optical waveguide,...measuring a first measurement signal related to the measurement light intensity at a first wavelength and a second wavelength, and monitoring the quality of the optical waveguide based on a function of the first measurement signal and the second measurement signal."

Presently, these claims stand rejected in view of Gander et al., which discloses measuring group velocity dispersion (GVD) in a length of a photonic crystal fiber (see, e.g., Gander, abstract). Gander's method includes placing the piece of photonic crystal fiber in a measurement arm of a Michelson interferometer where the fiber is "butt-coupled to a mirror," scanning the reference arm of the interferometer, and determining the GVD based on the detected interference patterns (Gander, Fig. 1, and p. 63, paragraphs 3-5). Nowhere does Gander disclose that these

interference patterns are due to light reflected from within the fiber. To the contrary, "[s]canning the length of the reference arm generates a pair of interferograms, due to reflections at the front and rear faces of the [photonic crystal fiber]" (id.). In other words, Gander measures GVD based on light reflected from the ends of the fiber, not from light reflected from within the fiber as required by claims 1, 27, and 40.

Furthermore, there is no suggestion in Gander to modify his method to include monitoring a waveguides quality or to determine information about a defect in a fiber based on light reflected from within the fiber. Nor would one of ordinary skill in the art be motivated to make such modifications, because, according to Gander, interference patterns due to reflections from the ends of the fiber are sufficient to determine the fiber's GVD.

Accordingly, we ask the Examiner to withdraw the prior art rejections of claims 1, 27, and 40. We further submit that the remaining rejected claims, all of which depend from claims 1, 27, or 40, are allowable for at least the same reasons as those set forth above.

Enclosed is a $339 check for excess claim fees and a $55 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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